CHILLICOTHE *MO2010162*

2020 Annual Water Quality Report

Consumer Confidence Report

This report is intended to provide you with important information about your drinking water and the efforts made to provide safe drinking water.

Attencion!

Este informe contiene información muy importante. Tradúscalo o prequntele a alguien que lo entienda bien. [translated: This report contains very important information. Translate or ask someone who understands this very well.]

What is the source of my water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pickup substances resulting from the presence of animals or from human activity.

Our water comes from the following source(s): 6 Ground Water wells located in the Grand River Flood Plain

The Department of Natural Resources conducted an assessment of our water to determine its susceptibility to contamination. The assessment is a three - step process of identifying an area around our well heads, inventorying potential sources of contaminants within that area (a one-half mile radius around the well heads) and a look at the adequacy of well construction. The assessment can be used to develop a wellhead protection program to protect this valuable resource. If you want to know more about the assessment or wish to participate on a watershed protection team to protect this valuable resource, then please call 660-646-0562.

Why are there contaminants in my water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Contaminants that may be present in source water include:

A. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

B. Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.

C. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

D. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

E. Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Department of Natural Resources prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Department of Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Is our water system meeting other rules that govern our operations?

The Missouri Department of Natural Resources regulates our water system and requires us to test our water on a regular basis to ensure it's safety. Our system has been assigned the identification number MO2010162 for the purposes of tracking our test results. Last year, we tested for a variety of contaminants. The detectable results of these tests are on the following pages of this report. Any violations of state requirements or standards will be further explained later in this report.

How might I become actively involved?

If you would like to observe the decision-making process that affect drinking water quality or if you have any further questions about your drinking water report, please call the Water Treatment Plant at 660-646-0562. To inquire about scheduled meetings or contact persons call 660-646-1683.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Special Lead and Copper Notice:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. CHILLICOTHE MUNICIPAL UTILITIES is responsible for providing high quality drinking water, but cannot control the variety of materials used in home plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800 – 426 – 4791) http://water.epa.gov/drink/info/lead/index.cfm.

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Contaminants Report

Definitions:

MCLG: Maximum Contaminant Level Goal, or the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL: Maximum Contaminant Level, or the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
AL: Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
TT: Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water. - 90th percentile: For lead and Copper testing. 10% of test results are above this level and 90% are below this level. - Level Found: is the average of all test results for a particular contaminant. - Range of Detections: Shows the lowest and highest levels found during a testing period. If only one sample was taken, then one number will be reported.
MRLDG: Maximum Residual Disinfectant Level Goal, or the level of a drinking water disinfectsnt below which there is no known or expected risk to health.
MRDL: Maximum Residual Disinfectant Level, or the highest level of a disinfectant allowed in drinking water.
RAA: RunningAnnual Average, or the average of sample analytical results for samples taken during the previous four calendar quarters.

Abbreviations:

PPB or UG/L: parts per billion or micrograms per liter · ppm: parts per million or milligrams per liter · n/a: not applicable · NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water · MFL: million fibers per liter, used to measure asbestos concentration. · nd: not detectable at testing limits

The state has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Records marked with *, though representative, are more than one year old.

Regulated Contaminants

Inorganic	*Units*	*MCL*	*MCLG*	*Level Found*	*Range of Detections*	*Violation*	*Monitoring Period*
Arsenic	ppb	.010 ppm	n/a	ND	ND	No	2020
Sources: Erosion of natural deposits							
Barium, Dissolved	ppb	2.0 ppm		24.8	24.8	No	2020
Sources: Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits.							
Chromium	ppb	0.10 ppm	n/a	ND	ND	No	2020
Sources: Discharge from steel and pulp mills; Erosion of natural deposits							
Fluoride	ppm	4	4	0.66	0.64 – 0.70	No	2020
Sources: Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.							
Nitrate + Nitrite as N	ppm	10	10	.040	. 040	No	2020
Sources: Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.							

Disinfection By Products	*Units*	*MCL*	*MCLG*	*Level Found*	*Range Low - High*	*Violation*	*Monitoring Period*
Total Haloacetic Acids (HAA5)	ppb	60	0	19.4	19.4	No	1/1/2020 – 12/31/2020
Sources: By - product of drinking water chlorination.							
Total Trihalomethanes (TTHM)	ppb	80	0	30.9	30.9	No	1/1/2020 – 12/31/2020
Sources: By - product of drinking water chlorination.							

Volatile Organics	*Unit*	*MCL*	*MCLG*	*Level Found*	*Range of Detection*	*Violation*	*Monitoring Period*
Carbon Tetrachloride	ppb	5	0	ND	ND	No	2020
Sources: Discharge from chemical plants and other industrial activities.							

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Gross Alpha Particles

Units	*MCL*	*Level Found*	*Range of Detection*	*Sample Year*
PCi/L*	15	< 3.0	< 3.0	2017

Sources: Erosion of natural deposits.

Copper

Collection Period	***Units***	***Action Level***	***90th Percentile***	***Sites exceeding AL***
01/01/2016 - 12/31/2018	ppb*	1300	87.9	0

Sources: Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

Lead

Collection Period	***Units***	***Action Level***	***90th Percentile***	***Sites exceeding AL***
01/01/2016 - 12/31/2018	ppb*	15	1.64	0

Sources: Corrosion of household plumbing systems; Erosion of natural deposits.

Coliform

The MCL for total coliform is determined by the number of samples taken per month. Systems that collect less than 40 samples per month are in violation if more than one sample tests positive. Systems that collect more than 40 samples per month are in violation if 5% or more of the samples test positive.

# POSITIVE	*% POSITIVE*	*MONTH*	*VIOLATION*	*Monitoring Period*
0	0	n/a	No	1/1/2020 – 12/31/2020

Sources: Naturally present in the environment.

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Unregulated Contaminants

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Information on all the contaminants that were monitored for, whether regulated or unregulated, can be obtained from this water system or the Department of Natural Resources.

Inorganic	*Units*	*Level Found*	*Range of Detections*	*Sample Year*
Nickel	ppb	ND	ND	2020

Radon

Radon is a naturally occurring gas present in soil and most ground waters in Missouri. Radon in home indoor air comes mainly from infiltration from soil in contact with foundations, slabs, and basement walls. EPA recommends that indoor air levels not exceed 4 pCi/L (picocuries per liter). EPA uses a conversion factor of 10,000 to 1 to determine indoor air contribution from water (see figured below). Radon poses a risk for lung cancer (estimated at 160 deaths/year nationally from drinking water, 85% of these in smokers), and stomach cancer (5 deaths annually). However, experts are not sure exactly what the cancer risk is from a given level of radon in drinking water. If you are concerned about radon in your home, tests are available to determine the exact levels. Call your local health department for details.

Units	*Level Found*	*Range of detections*	*Indoor Air Contribution*
PCI/L*	14.100	14.1	0.0014

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Violations and Health Effects Information

There were no MCL, Monitoring, or treatment technique violations for this report.

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Optional Monitoring (not required by EPA)

Optional

Monitoring is not required for optional contaminants.

Inorganic	*Units*	*Level Found*	*Range of Detections*	*MCL*	*MCLG*	*Monitoring Period*
Alkalinity, CaCO3 Stability	ppm	156	156			2020
Aluminum	ppb	52.7	52.7	0.05ppm		2020
Calcium	ppm	21.9	21.9			2020
Carbon, Total Organic (TOC)	ppm*	1.2588	0.77-1.74			1999
Chloride	ppm	18.1	18.1	250ppm		2020
Hardness, Total as (CaCO3)	ppm	112	112			2020
Iron, Dissolved	ppb	14.5	14.5	0.03ppm		2020
Magnesium	ppm	13.8	13.8			2020
Manganese	ppb	1.96	1.96	0.05ppm		2020
PH		8.07	8.07			2020
Potassium	ppm	1.58	1.58			2020
Sodium	ppm	23.2	23.2		20	2020
Total Dissolved Solids (TDS)	ppm	213	213	500		2020
Sulfate	ppm	46.4	46.4	250		2020

Volatile Organic	*Units*	*Level Found*	*Range of Detections*	*Monitoring Period*
Bromochloroacetic Acid	ppb*	6.49	6.49	1/1/2020 – 12/31/2020
Bromodichloroacetic Acid	ppb*	2.59	2.59	
Bromodichloromethane	ppb	13.8	13.8	
Bromoform	ppb	2.84	2.84	
Chlorodibromoacetic Acid*	ppb	2.68	2.68	
Chloroform	ppb	15.0	15.0	
Dichloroacetic Acid	ppb*	8.67	8.67	
Trichloroacetic Acid	ppb	3.31	3.31	
Dibromoacetic Acid	ppb	7.40	7.40	

Chillicothe Municipal Utilities Water Departments Consumer Confidence Report will not be mailed, but is available upon request at the Chillicothe Municipal Utilities Office located at 920 Washington Street.